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1. A DNA molecule encoding alkaline liquefying α -amylase activity.

2. A DNA molecule as defined in Claim 1, which encodes the amino acid sequence described in Sequence No. 1 or a functional fragment thereof.

3. A DNA molecule encoding a protein exhibiting alkaline liquefying α -amylase activity and possessing an amino acid sequence described in Sequence No. 2 in which one or more amino acids are substituted, added, deleted, inverted, or inserted.

4. A DNA molecule as defined in any one of Claims 1 through 3, further comprising a nucleotide sequence for regulating expression of a gene.

5. A recombinant DNA containing the DNA molecule of Claim 2.

6. A transformed microorganism harboring the recombinant DNA of Claim 5.

7. A method for producing alkaline liquefying α -amylase, comprising culturing the transformed microorganism of Claim 6 and isolating the alkaline liquefying α -amylase produced by the microorganism.

8. A DNA molecule which hybridizes to a DNA sequence which is complementary to the nucleic acid sequence of SEQ ID No. 2.

9. A protein encoded by the DNA molecule of Claim 2.

10. A DNA molecule which hybridizes to a DNA sequence which is complementary to the nucleic acid sequence of SEQ ID No. 2, wherein said DNA molecule encodes a protein having alkaline

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sub I3

2 or 3

claim 2

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liquefying ~~E~~ amylase activity.

11. A protein encoded by the ~~E~~ DNA molecule of Claim 10.
12. The recombinant DNA plasmid pAML100.
13. The recombinant E. coli strain HB101(pAML100).

ADD A'

add 33

add
E2

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265277.1425680

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C1

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